This booklet was funded by an Urban Forestry Assistance Grant from The USDA Forest Service, State and Private Forestry.

STATE OF CONNECTICUT
DEPARTMENT OF ENVIRONMENTAL PROTECTION
Bureau of Natural Resources, Division of Forestry
79 Elm Street
Hartford, CT 06106-5127
Telephone: (860) 424-3630
Fax: (860) 424-4070
http://www.ct.gov/dep

For more information contact:

CONNECTICUT
Department of Environmental Protection

Bureau of Natural Resources
Division of Forestry
79 Elm Street
Hartford, CT 06106-5127
Telephone: (860) 424-3630
Web Site: www.ct.gov/dep

The following organizations and people have contributed significantly to this publication with source materials, writing, editing, ideas, and photography. Their efforts are greatly appreciated.

The Connecticut Department of Environmental Protection Division's of Inland Fisheries, Inland Water Resources, Waste Engineering And Enforcement; Doug Emmerthal, David Welsh, David B. Kittridge; Jr. Jennifer Sinnish; Dave Misavage; Thomas Trowbridge; Carol Youell; William Hochholzer Jr., Thomas Worthley, Joe Voboril, Alicia Watson, Joan Nichols, Mark Ashton, Jeffrey Durst, JP Barsky, Justin White, Jennifer Hockla, Chris Kollestrum, MDC

The Connecticut Division of Forestry would like to acknowledge Connecticut RC&D Forestry Committee Michigan Dept. of Natural Resources, Wisconsin Dept. of Natural Resources, USDA Forest Service Northeast Area, and UMass Extension for the source material they developed used this book.

Index

Note: Throughout this field guide when key words are first mentioned they appear in bold italics, indicating that they are defined in the Glossary.

Introduction

Best Management Practices
for water quality while harvesting forest products

Introduction

FORESTS PLAY A VITAL ROLE IN PURIFYING AND MAINTAINING CLEAN WATER TO SUPPORT DIVERSE AQUATIC ECOSYSTEMS AND SATISFY HUMAN DEMANDS. SPECIAL CARE MUST BE TAKEN TO PROTECT THE WETLANDS AND WATER RESOURCES WHEN CONDUCTING TIMBER HARVESTS.

This field guide is intended for certified forest practitioners, private landowners, and municipal officials to use while planning, executing, or monitoring commercial forest practices. The focus of the publication is to promote sound timber harvesting practices in Connecticut woodlands by strengthening planning efforts and fostering better communications between municipal officials, landowners, foresters, and loggers. This guide is a menu of options that allows flexibility for professional discretion and decision-making in the field. It does not present a single prescription that can or should be applied in all cases. The ultimate objective is to have an economically viable timber harvest that protects water quality and site productivity.

The key to success is the proper planning and use of appropriate or "best management practices." Best management practices for water quality, or BMPs as they are often referred to, are minimal standards taken to ensure water quality. In the case of this harvesting guide

they are simple, often low-cost practices and techniques that can be incorporated into timber harvesting practices. The implementation of BMPs can pay big dividends in keeping our water clean, maintaining the productivity of the forest, improving public confidence in forestry and logging professionals, and maintaining public support for sustainable forest management.

The process of felling a tree generally does not cause **erosion**. The potential for, **sedimentation** from harvesting operations originates from erosion to exposed soil on logging roads, skid trails, and landings. The risk of pollution from forest management activities is small compared with most other land uses.

The direct impact of rainfall and subsequent surface runoff causes most of the erosion in logging operations. Surface runoff scours exposed soils and detaches particles, transports sediments, and forms pools in deep ruts and depressions on roads and trails. Erosion and sedimentation may cause a variety of problems including:

- Loss of soil from the forest, reducing productivity.
- Eventual filling of stream channels, resulting in flooding.
- Alteration of habitat for fish and wildlife.
- A traffic hazard, if sediments reach a public road.
- Higher timber harvesting costs.
- Adverse public opinion of timber harvesting.
- Reduction of water quality.

Most erosion associated with forest management activities occurs during and immediately after timber harvesting. The basic principles of erosion control needed to reduce or avoid damage include:

- Disturbing as little land as possible.
- Using erosion control measures to protect disturbed areas.
- Reducing the speed and volume of runoff.
- Diverting runoff away from disturbed areas.
- Conducting conscientious maintenance of erosion controls.
- Assigning someone the direct responsibility of implementing and maintaining erosion control measures.

It is more economical and effective to plan a timber harvest in advance and take preventative measures, than it is to try to fix the problems after they occur. If the suggestions outlined in this field guide are followed, and appropriate practices applied, timber harvesting will have minimal impact on water quality, and will continue to be viewed in a positive manner.